

Amendments to the Claims:

Please cancel claims 1-9, 20, 22, and 35-45, without prejudice.

Please add new claims 46-67.

Please amend claims 10, 12, 16, 17, and 24-34, as shown in the listing of claims.

This listing of claims, starting at page 5, will replace the claims as originally filed.

Listing of Claims:

Claims 1-9 (canceled).

- 10(currently amended). A virus formulation comprising:
a) a purified virus;
b) a buffer;
c) a sugar;
d) a salt;
e) a divalent cation;
f) a non-ionic detergent; and,
g) ~~an~~ at least one inhibitor of free radical oxidation.
- 11(original). A virus formulation of claim 10 with a concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L.
- 12(currently amended). A virus formulation of claim 10 with a virus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL, wherein the buffer is selected from a group ~~agroup~~ of buffers acceptable for human parenteral use, preferably a Tris buffer, at a pH from about ~~7.5~~ 7.0 to about ~~9.0~~ 8.5.
- 13(original). A virus formulation of claim 12 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.
- 14(original). A virus formulation of claim 13 wherein the divalent cation is selected from the group consisting of $MgCl_2$ and $CaCl_2$ in an amount from about 0.1 mM to about 5 mM.
- 15(original). A virus formulation of claim 14 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

16(currently amended). A virus formulation of claim 15 wherein the inhibitor of free radical oxidation is selected from the group consisting of ethanol, EDTA, ~~an EDTA/ethanol combination~~, triethanolamine, ~~and sodium citrate~~, histidine, and combinations thereof.

17(currently amended). A virus formulation of claim 10 with a concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L which comprises a about 5.0 mM Tris, at pH 8.0; sucrose in a weight to volume range of about 5%; NaCl at about 75 mM, $MgCl_2$ at about 1 mM to 2 mM, either Polysorbate-80 at a concentration of about 0.02% or Polysorbate-40 at a concentration of about 0.005%, EDTA is present at about 100 μ M and ethanol at about 0.5%.

18(original). A virus formulation of claim 17 which comprises about 5.0 mM Tris-HCl, at pH 8.0; sucrose at about 5%, NaCl at about 75 mM, $MgCl_2$ from about 1 mM to 2 mM, Polysorbate-80 at about 0.005%, EDTA at about 100 μ M and ethanol at about 0.5%.

19(original). A virus formulation of claim 11 comprising adenovirus and a formulation selected from the group consisting of formulation number A105, A110, A111, A112, A121, A126, A127, A128, A129, A130, A131, A155, A159, A160, A165, A167, A168, A169, A170, A171, A172 and A173.

Claim 20(canceled).

Claim 21(original). A virus formulation of claim 11 which further comprises plasmid DNA at a concentration from about 0.01 mg/mL to about 10 mg/mL.

Claim 22(canceled).

Claim 23(original). A virus formulation of claim 21 which comprises 5.0 mM Tris-HCl, at pH 8.0; sucrose at about 5%, NaCl at about 75 mM, $MgCl_2$ from about 1 mM to about 2 mM, Polysorbate-80 at about 0.005%, EDTA at about 100 μ M, ethanol at about 0.5% and plasmid DNA at about 1 mg/mL.

24(currently amended). An adenovirus A-virus formulation comprising at least one inhibitor of free radical oxidation selected from the group consisting of ethanol, EDTA, ~~an EDTA/ethanol combination~~, triethanolamine, and sodium citrate, histidine, and combinations thereof.

25(currently amended). An adenovirus A-virus formulation of claim 24 wherein a purified virus and the inhibitor(s) of free radical oxidation further comprise a buffer, a sugar, a salt, a divalent cation; and a non-ionic detergent.

26(currently amended). An adenovirus A-virus formulation of claim 25 with an adenovirus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/ml and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L.

27(currently amended). An adenovirus A-virus formulation of claim 26 with an adenovirus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL, wherein the buffer is selected from a group of buffers acceptable for human parenteral use, preferably a Tris buffer, at a pH from about ~~7.5~~ 7.0 to about ~~9.0~~ 8.5.

28(currently amended). An adenovirus A-virus formulation of claim 27 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

29(currently amended). An adenovirus A-virus formulation of claim 28 wherein the divalent cation is selected from the group consisting of $MgCl_2$ and $CaCl_2$ in an amount from about 0.1 mM to about 5 mM.

30(currently amended). An adenovirus A-virus formulation of claim 29 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

31(currently amended). An adenovirus A-virus formulation of claim 30 with an adenovirus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L which comprises a about 5.0 mM Tris, at pH 8.0; sucrose in a weight to volume range of about 5%; NaCl at about 75 mM, $MgCl_2$ at about 1 mM to 2 mM, and either Polysorbate-80 at a concentration of about 0.02% or Polysorbate-40 at a concentration of about 0.005%.

32(currently amended). An adenovirus A-virus formulation of claim 31 wherein the formulation is buffered with about 5.0 mM Tris-HCl, at pH 8.0; sucrose is present a about 5%, NaCl is present at about 75 mM, $MgCl_2$ at 1 mM, and Polysorbate-80 at 0.001% with the total osmolarity approximately 310 mOs/L.

33(currently amended). An adenovirus A-virus formulation of claim 25 which further comprises plasmid DNA at a concentration from about 0.01 mg/mL to about 10 mg/mL.

34(currently amended). An adenovirus A-virus formulation of claim 26 which further comprises plasmid DNA at a concentration from about 0.01 mg/mL to about 10 mg/mL.

Claims 35-45 (canceled).

46(new). An adenovirus formulation comprising:
a) a purified adenovirus;
b) a buffer;
c) a sugar;
d) a salt;
e) a divalent cation;
f) a non-ionic detergent; and,
g) at least one inhibitor of free radical oxidation.

47(new). An adenovirus formulation of claim 46 wherein at least one inhibitor of free radical oxidation of g) is selected from the group consisting of ethanol, EDTA, triethanolamine, sodium citrate, histidine, and combinations thereof.

48(new). An adenovirus formulation of claim 46 which comprises at least two inhibitors of free radical oxidation of g) selected from the group consisting of ethanol, EDTA, triethanolamine, sodium citrate, histidine, and combinations thereof.

49(new). An adenovirus formulation of claim 47 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

50(new). An adenovirus formulation of claim 49 wherein the divalent cation is selected from the group consisting of $MgCl_2$ and $CaCl_2$ in an amount from about 0.1 mM to about 5 mM.

51(new). An adenovirus formulation of claim 50 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

52(new). An adenovirus formulation of claim 51 with a virus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL, wherein the buffer is selected from a group of buffers acceptable for human parenteral use, preferably a Tris buffer, at a pH from about 7.0 to about 9.0.

53(new). An adenovirus formulation of claim 46 comprising adenovirus and a formulation selected from the group consisting of formulation number A105, A110, A111, A112, A121, A126, A127, A128, A129, A130, A131, A155, A159, A160, A165, A167, A168, A169, A170, A171, A172 and A173.

54(new). An adenovirus formulation of claim 47 which further comprises plasmid DNA at a concentration from about 0.01 mg/mL to about 10 mg/mL.

55(new). An adenovirus formulation of claim 48 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

56(new). An adenovirus formulation of claim 55 wherein the divalent cation is selected from the group consisting of MgCl_2 and CaCl_2 in an amount from about 0.1 mM to about 5 mM.

57(new). An adenovirus formulation of claim 56 wherein the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.

58(new). An adenovirus formulation of claim 57 with a virus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL, wherein the buffer is selected from a group of buffers acceptable for human parenteral use, preferably a Tris buffer, at a pH from about 7.0 to about 9.0.

59(new). An adenovirus formulation of claim 46 with a concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L which comprises about 5.0 mM Tris, at pH 8.0; sucrose in a weight to volume range of about 5%, NaCl at about 75 mM, MgCl_2 at about 1 mM to 2 mM, either Polysorbate-80 at a concentration of about 0.02% or Polysorbate-40 at a concentration of about 0.005%, EDTA is present at about 100 μM and ethanol at about 0.5%.

60(new). An adenovirus formulation of claim 59 which comprises about 5.0 mM Tris-HCl, at pH 8.0; sucrose at about 5%, NaCl at about 75 mM, MgCl_2 from about 1 mM to 2 mM, Polysorbate-80 at about 0.005%, EDTA at about 100 μM and ethanol at about 0.5%.

61(new). An adenovirus formulation of claim 48 which further comprises plasmid DNA at a concentration from about 0.01 mg/mL to about 10 mg/mL.

62(new). An adenovirus formulation with an adenovirus concentration in the range from about 1×10^7 vp/mL to about 1×10^{13} vp/mL and a total osmolarity in a range from about 200 mOs/L to about 800 mOs/L which comprises from about 5.0 mM to about 10 mM Tris at a pH from about 7.0 to about 9.0, sucrose at about 5% weight/volume, NaCl at about 75 mM, MgCl_2 from about 1 mM to 2 mM, Polysorbate-80 from about 0.005% to about 0.1% weight/volume, EDTA at about 100 μM , ethanol at about 0.5% weight/volume, and histidine from about 5 mM to about 10 mM.

63(new). An adenovirus formulation of claim 62 wherein the Tris buffer is present at about 10 mM, sucrose at about 5% weight/volume, NaCl at about 75 mM, MgCl_2 at about 1 mM, Polysorbate-80 from about 0.02% weight/volume, EDTA at about 100 μM , ethanol at about 0.5% weight/volume, and histidine at about 10 mM.

64(new). An adenovirus formulation comprising at least two inhibitors of free radical oxidation, wherein said inhibitors are selected from the group consisting of ethanol, EDTA, triethanolamine, sodium citrate, histidine, and combinations thereof.

65(new). An adenovirus formulation of claim 64 wherein a purified virus and the inhibitors of free radical oxidation further comprise a buffer, a sugar, a salt, a divalent cation; and a non-ionic detergent.

66(new). An adenovirus formulation of claim 65 wherein the sugar is sucrose at a weight to volume percentage from about 2% to about 7.5% and the salt is sodium chloride from about 25 mM to about 250 mM, such that the total osmolarity of the formulation is a range from about 200 mOs/L to about 800 mOs/L.

67(new). An adenovirus formulation of claim 66 wherein the divalent cation is selected from the group consisting of MgCl_2 and CaCl_2 in an amount from about 0.1 mM to about 5 mM and the non-ionic detergent is selected from the group consisting of Polysorbate-80 and Polysorbate-40 at a concentration range from about 0.001% to about 2%.